



*Passion for Polymers*



**INNOVATIVE SME**

Valid until Dec 4th 2021



**European  
Commission**

Horizon 2020  
European Union funding  
for Research & Innovation



Fins a 31/12/2019



Located at 30 min from Barcelona, Spain



Two industrial plants

# OUR MOTTO



## Innovation

- Expertise in R&D of new products for household, cosmetics and pharmaceutical sectors
- +30 years polymer science experience to overcome challenges in polymer chemistry and encapsulation

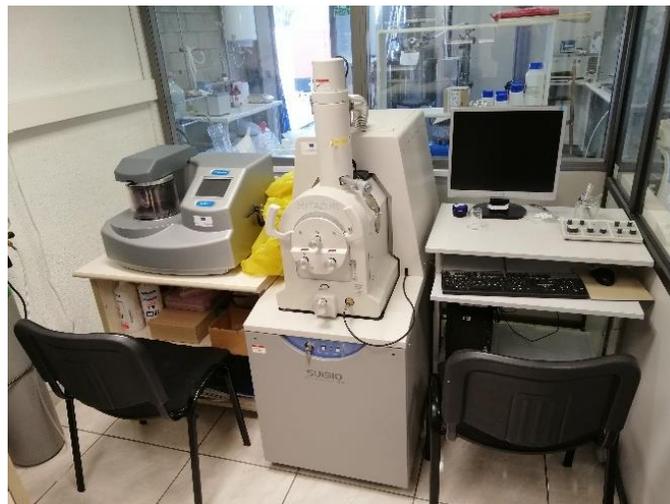
# FACILITIES



1, 10, 20, 60, 150,  
300 Kg pilot plant



1.2, 1.5, 4, 8  
Tons (mt) reactors  
manufacturing  
plant



Advanced  
techniques for  
micro-nano  
characterization



Fully-equipped  
laboratories for  
specialty polymers  
and micro-  
nanoencapsulation  
for cosmetics and  
healthcare

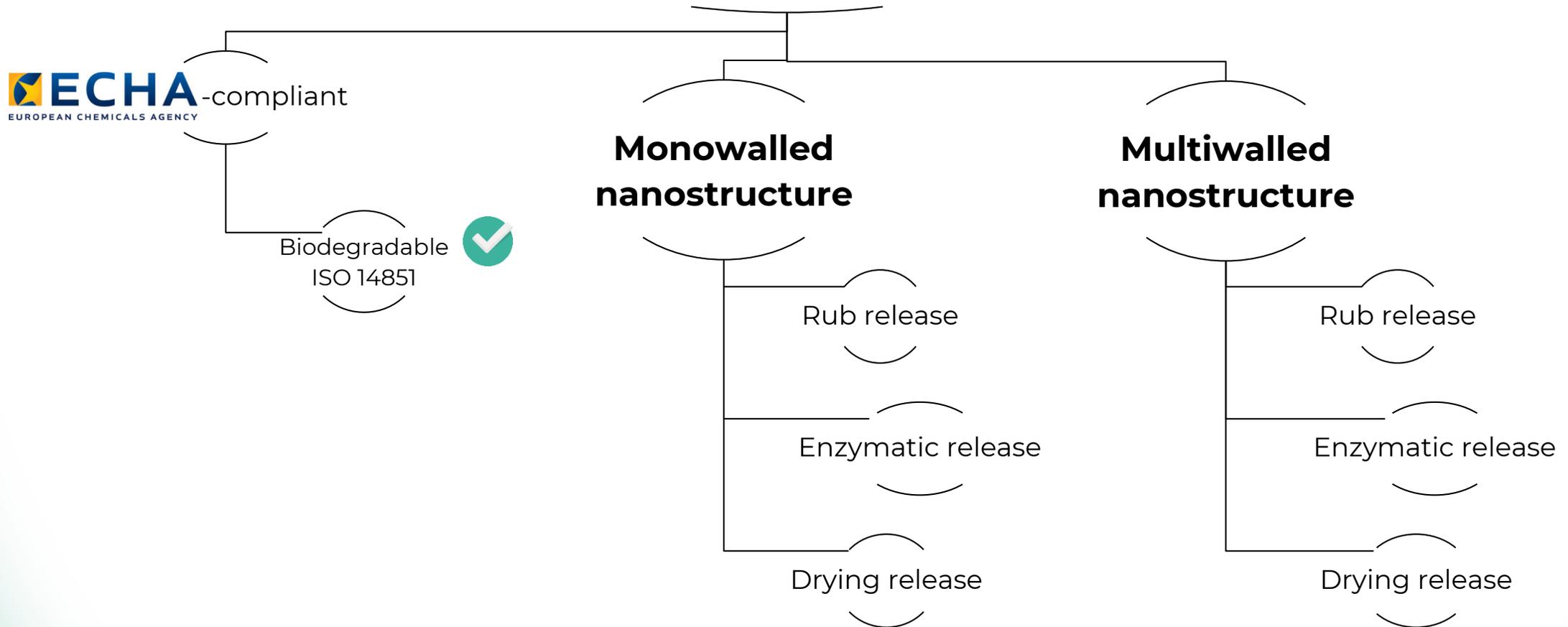


# ENCAPSULATION

# TECHNOLOGY



## Polyurethane-polyurea Nano & Microcapsules



# REGULATORY



USA – EU – China – Australia – Canada - **COMPLIANT**

**Free of:** Formaldehydes, BHT\*, BHA, parabens, sulphates, amines, acrylates, phthalates, artificial colorants, SVHC, gluten, BSE, triclosan, aluminum, VOC, 1,4-dioxane, nitrosamines, pesticides, propylene glycol, diethylene glycol, among other common allergens

**Vegan & Earth-friendly**

**Not animal tested**

**No organic solvents used during manufacturing**

# ECOPOL TECH



## **CAPSURETINOL UHC** (431600 IU/g)

13% retinol content polyurea microcapsules with high stability to oxidation and proprietary controlled release platform (BHT-free!)

## **CAPSURETINOL PF** (99600 IU/g)

3% retinol content polyurea microcapsules with high stability to oxidation and proprietary controlled release platform

## **CAPSURETINOL RP** (750000 IU/g)

30% retinyl propionate content polyurea microcapsules with high stability to oxidation and proprietary controlled release platform

## **ECOCAPS-TOCOPHEROL**

Polyurea microcapsules with 25% content of vitamin E (D,L-alpha-tocopherol)

## **ECOCAPS-LAVENDER**

Polyurea microcapsules with 30% content of lavender essential oil

## **ECOCAPS-GRAPEFRUIT**

Polyurea microcapsules with 30% content of grapefruit essential oil

## **ECOCAPS-CINNAMON**

Polyurea microcapsules with 15% content of cinnamon essential oil

## **ECOCAPS-NEEM-EX**

Polyurea microcapsules with 30% content of neem leaves extract

## **ECOCAPS-NEEM**

Polyurea microcapsules with 3% content of neem seed essential oil

## **ECOCAPS-NEEM-SPEARMINT**

Polyurea microcapsules with 3% and 6% content of co-encapsulated neem and spearmint essential oils

# ECOPOL TECH



## **ECOCAPS-ARGAN**

Polyurea microcapsules with 30% content of argan oil

## **ECOCAPS-MENTHOL**

Polyurea microcapsules with 6% content of menthol

## **ECOCAPS-GINSENG**

Polyurea microcapsules with 30% content of ginseng extract

## **ECOCAPS-GINSENG-WELLNESS**

Polyurea microcapsules 30% high content of ginseng extract + aromatherapy oil

## **ECOCAPS-BERGAMOT**

Polyurea microcapsules with 12% content of bergamot essential oil

## **ECOCAPS-TEA TREE**

Polyurea microcapsules with 30% content of tea tree essential oil

## **ECOCAPS-FRAGRANCE**

Polyurea microcapsules with high content of the client choice hydrophobic fragrance

## **ECOSTRATAR**

Multifunctional nanoparticles for controlled delivery of cosmetic actives\*

## **ECOSTRATAR-TARGET**

Multifunctional nanoparticles for controlled cell-targeted delivery of cosmetic actives\*

## **ECORES**

3% resveratrol-loaded polyurethane-polyurea nano/microcapsules\*

## **SILAIRCARE-18**

18% amodimethicone-loaded polyurethane-polyurea nano/microcapsules

\* Custom-developed once ordered

# ECOPOL TECH



## **CAPSURETINOL UHC. *BHA/BHT-free!***

**Chemistry:** Polyurea microcapsules of ultra high retinol content (13% = 431600 IU/g). Served as aqueous dispersion.

**APP:** Anti-wrinkle, skin regeneration, anti-acne, intensive treatments. Hermetically encapsulated to avoid retinol degradation and unwanted interactions with external surfactants. Large microcapsules break and release retinol immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Retinol (and) Caprylic/Capric Triglyceride (and) Polyurethane Crosspolymer-1 (and) Polyvinyl Alcohol (and) Tocopherol

## **CAPSURETINOL PF**

**Chemistry:** Polyurea microcapsules of high retinol content (3% = 99600 IU/g). Served as aqueous dispersion or powder.

**APP:** Anti-wrinkle, skin regeneration. Hermetically encapsulated to avoid retinol degradation and unwanted interactions with external surfactants. Large microcapsules break and release retinol immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Glycine Soja (Soybean) Oil (and) Polyurethane Crosspolymer-1 (and) Retinol

## CAPSURETINOL RP

**Chemistry:** Polyurea microcapsules of ultra high retinyl propionate content (30% = 750000 IU/g). Served as aqueous dispersion.

**APP:** Anti-wrinkle, skin regeneration, anti-acne. Hermetically encapsulated to avoid retinyl propionate degradation and unwanted interactions with external surfactants. Large microcapsules break and release retinyl propionate immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Retinyl Propionate (and) Polyvinyl Alcohol (and) Polyurethane Crosspolymer-1 \*

# ECOPOL TECH



## **ECOCAPS-TOCOPHEROL**

**Chemistry:** Polyurea microcapsules containing D,L-alpha-tocopherol vitamin E form (25%). Served as aqueous dispersion.

**APP:** Antioxidant. Hermetically encapsulated to avoid early oxidation of vitamin E. Large microcapsules break and release vitamin E immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Caprylic/Capric Triglyceride (and) Tocopherol (and) Polyvinyl Alcohol (and) Polyurethane Crosspolymer-1

## **ECOCAPS-LAVENDER**

**Chemistry:** Polyurea microcapsules containing lavender essential oil (30%). Served as aqueous dispersion.

**APP:** Antimicrobial, aromatherapy. Hermetically encapsulated to avoid top notes evaporation and unwanted interactions with external surfactants. Large microcapsules break and release lavender immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Lavandula Hybrida Oil (and) Polyurethane Crosspolymer-1

## **ECOCAPS-GRAPEFRUIT**

**Chemistry:** Polyurea microcapsules containing grapefruit essential oil (30%). Served as aqueous dispersion.

**APP:** Antimicrobial, aromatherapy. Hermetically encapsulated to avoid top notes evaporation and unwanted interactions with external surfactants. Large microcapsules break and release grapefruit immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Citrus Grandis Peel Oil (and) Polyurethane Crosspolymer-1

## ECOCAPS-CINNAMON

**Chemistry:** Polyurea microcapsules containing cinnamon essential oil (15%). Served as aqueous dispersion.

**APP:** Antimicrobial, antioxidant, aromatherapy. Hermetically encapsulated to avoid top notes evaporation and unwanted interactions with external surfactants. Large microcapsules break and release cinnamon immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Cinnamomum Cassia Oil (and) Polyurethane Crosspolymer-1

# ECOPOL TECH



## **ECOCAPS-NEEM-EX**

**Chemistry:** Polyurea microcapsules containing neem leaves extract (30% rich in azadirachtin). Served as aqueous dispersion.

**APP:** Antimicrobial, anticaries, pesticidal. Hermetically encapsulated to avoid neem odor and unwanted interactions with external surfactants. Large microcapsules break and release neem immediately. Small ones accumulate in cavities for a prolonged release.

**INCI:** Aqua (and) Helianthus Annuus (Sunflower) Seed Oil (and) Melia Azadirachta Leaf Extract (and) Polyurethane Crosspolymer-1

# ECOPOL TECH



## **ECOCAPS-NEEM**

**Chemistry:** Polyurea microcapsules containing neem seed oil (3%). Served as aqueous dispersion.

**APP:** Antimicrobial, anticaries, insect repellent, pesticidal. Hermetically encapsulated to avoid neem odor and unwanted interactions with external surfactants. Large microcapsules break and release neem immediately. Small ones accumulate in cavities for a prolonged release.

**INCI:** Aqua (and) Caprylic/Capric Triglyceride (and) Melia Azadirachta Seed Oil (and) Polyurethane Crosspolymer-1

# ECOPOL TECH



## **ECOCAPS-NEEM-SPEARMINT**

**Chemistry:** Polyurea microcapsules containing neem seed oil (3%) and spearmint oil (6%). Served as aqueous dispersion.

**APP:** Antimicrobial, anticaries, antiinflammatory. Hermetically encapsulated spearmint to avoid neem odor and provide a fresh aroma and unwanted interactions with external surfactants. Large microcapsules break and release neem immediately. Small ones accumulate in cavities for a prolonged release.

**INCI:** Aqua (and) Caprylic/Capric Triglyceride (and) Melia Azadirachta Seed Oil (and) Mentha Viridis (Spearmint) Leave Oil (and) Polyurethane Crosspolymer-1

## **ECOCAPS-MENTHOL**

**Chemistry:** Polyurea microcapsules containing menthol (6%). Served as aqueous dispersion.

**APP:** Cooling-effect, anti-inflammatory. Hermetically encapsulated to avoid menthol odor and unwanted interactions with external surfactants. Large microcapsules break and release menthol immediately. Small ones accumulate in cavities for a prolonged release.

**INCI:** Aqua (and) Menthol (and) Caprylic/Capric Triglyceride (and) Polyurethane Crosspolymer-1

# ECOPOL TECH



## **ECOCAPS-ARGAN**

**Chemistry:** Polyurea microcapsules containing argan essential oil (30%). Served as aqueous dispersion.

**APP:** Skin/hair repair. Hermetically encapsulated to avoid argan degradation and unwanted interactions with external surfactants. Large microcapsules break and release argan immediately. Small ones accumulate in cavities for a prolonged release.

**INCI:** Aqua (and) Argania Spinosa Oil (and) Polyurethane Crosspolymer-1

## **ECOCAPS-GINSENG**

**Chemistry:** Polyurea microcapsules containing ginseng extract (30%). Served as aqueous dispersion.

**APP:** Anti-oxidant, anti-aging, anti-inflammatory. Hermetically encapsulated to avoid ginseng degradation and unwanted interactions with external surfactants. Large microcapsules break and release ginseng immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Caprylic/Capric Triglyceride (and) Ginseng Panax Extract (and) Polyurethane Crosspolymer-1

## **ECOCAPS-GINSENG-WELLNESS**

**Chemistry:** Polyurea microcapsules containing ginseng extract (30%) + choice of aromatherapy oil. Served as aqueous dispersion.

**APP:** Anti-oxidant, anti-aging, anti-inflammatory, aromatherapy. Hermetically encapsulated to avoid ginseng degradation and unwanted interactions with external surfactants. Large microcapsules break and release ginseng immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Caprylic/Capric Triglyceride (and) Ginseng Panax Extract + choice of aromatherapy oil (and) Polyurethane Crosspolymer-1

## ECOCAPS-BERGAMOT

**Chemistry:** Polyurea microcapsules containing bergamot essential oil (12%). Served as aqueous dispersion.

**APP:** Antimicrobial, cleansing, aromatherapy. Hermetically encapsulated to avoid bergamot degradation and unwanted interactions with external surfactants. Large microcapsules break and release bergamot immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Caprylic/Capric Triglyceride (and) Citrus aurantium Bergamia (Bergamot) Fruit Oil (and) Polyurethane Crosspolymer-1

# ECOPOL TECH



## **ECOCAPS-TEA TREE**

**Chemistry:** Polyurea microcapsules containing tea tree oil (30%). Served as aqueous dispersion.

**APP:** Anti-lice, anti-microbial, anti-inflammatory. Hermetically encapsulated to avoid tea tree oil degradation and unwanted interactions with external surfactants. Large microcapsules break and release tea tree oil immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Caprylic/Capric Triglyceride (and) Melaleuca Alternifolia (Tea Tree) Leaf Oil (and) Polyurethane Crosspolymer-1

## ECOCAPS-FRAGRANCE

**Chemistry:** Polyurea microcapsules containing a hydrophobic fragrance (20-40%). Served as aqueous dispersion.

**APP:** Perfume burst release onto skin/hair. Hermetically encapsulated to avoid unwanted interactions with external surfactants and fragrance early release. Large microcapsules break and release fragrance immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Polyurethane Crosspolymer-1 (and) choice of fragrance

# ECOPOL TECH



## **ECOSTRATAR**

**Chemistry:** Customizable self-stratified polyurethane-polyurea capsules. Choose actives, capsule size, release mechanism. Served as a nanoemulsion or powder.

**APP:** Multiple active delivery applications. Solubilizes and protects cosmetic actives. Capsules slowly release their content upon Shell biodegradation.

**ID:** US/EU patented technology WO2014114838A3

# ECOPOL TECH



## **ECOSTRATAR-TARGET**

**Chemistry:** Customizable self-stratified polyurethane-polyurea capsules. Choose actives, capsule size, release mechanism, and targeting molecules. Served as a nanoemulsion or powder.

**APP:** Multiple cell-targeted delivery applications. Solubilizes and protects cosmetic actives. Nanocapsules release their content upon target-cell internalization.

**ID:** US/EU patented technology WO2014114838A3

# ECOPOL TECH



## ECORES

**Chemistry:** Polyurethane-polyurea nano-microcapsules containing (E)-Resveratrol (3%). Served as aqueous dispersion

**APP:** Anti-wrinkle, anti-inflammatory, antioxidant. Solubilizes and protects Resveratrol from oxidation. Large microcapsules break and release resveratrol immediately. Small ones accumulate in wrinkles for a prolonged release.

**INCI:** Aqua (and) Polyurethane Crosspolymer-1 (and) Caprylic/Capric Triglyceride (and) Resveratrol

# ECOPOL TECH



## **SILAIRCARE-18**

**Chemistry:** Polyurea-polyurethane nanocapsules containing 18% encapsulated amodimeticone at neutral pH.

**APP:** Hair and skin conditioner to be included in leave-in formulas such as hair-masks, conditioners, serums, lotions, and creams. Amodimethicone is released immediately after blow-drying and flat-ironing. Compatible even with slightly acidic formulations.

**INCI:** Aqua (and) Polyurethane Crosspolymer-1 (and) Amodimethicone

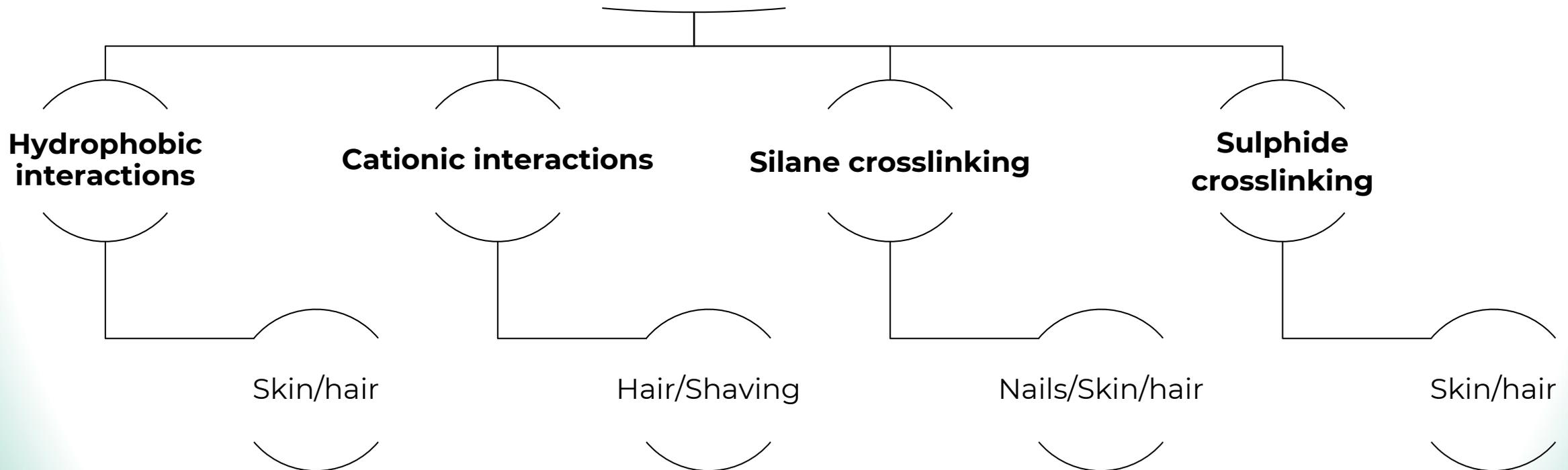


# FILM-FORMING POLYMERS

# TECHNOLOGY



## Polyurethane-polyurea Film-forming Polymers



# REGULATORY



USA – EU – China – Australia – Canada - **COMPLIANT**

**Free of:** Formaldehydes, siloxanes, parabens, sulphates, amines, acrylates, phthalates, artificial colorants, SVHC, gluten, BSE, triclosan, aluminum, VOC, 1,4- dioxane, nitrosamines, pesticides, propylene glycol, diethylene glycol, among other common allergens

**Vegan & Earth-friendly**

**Not animal tested**

# ECOPOL TECH



**COSMETIC  
POLYMERS**

## **ECO FILMCARE**

Bio-based film-former with anti-abrasion properties.

## **ECO SELF-HEAL**

Bio-based film-former with self-healing properties.

## **ECOPOLDERM**

Emollient/conditioning low molecular weight polymer.

## **ECOSUN**

Ethanol-based film-former with SPF-boosting properties.

## **ELYSAN**

Hair conditioning/moisturizing elastic polymer.

## **ELYSAN PLUS**

Hair conditioning/moisturizing elastic polymer. Water-resistant.

## **ECOREPAIR**

Keratin-targeted hair repairing polymer.

## **ECOCAPI**

Cationic polymer with high hair affinity.

## **ECO-INTER-F2/F3**

Poly alphaolefin-co-maleic anhydride (C12, C14) polymeric additive served in oil solvent.

# ECOPOL TECH



COSMETIC  
POLYMERS

## ECO FILMCARE

**Chemistry:** Anionic aqueous dispersion of organic-inorganic hybrid cross-linked polyurethane.

**APP:** This polymer is designed for high humidity and abrasion resistance in hair styling and advanced nail polish products.

**INCI Adopted:** Aqua (and) Diethylene Glycol/Dimer Dilinoleic Acid Copolymer (and) PPG-17/IPDI/DMPA Copolymer (and) Aminopropyl Triethoxysilane.

# ECOPOL TECH



COSMETIC  
POLYMERS

## ECO SELF-HEAL

**Chemistry:** Cationic aqueous dispersion of organic-inorganic hybrid cross-linked polyurethane.

**APP:** This polymer is designed to self-heal and mask minor cuts and scratches and is especially recommended for advanced hair repair treatments and high-end nail polish products.

**INCI Adopted:** Aqua (and) Dilinoleyl Alcohol/IPDI Copolymer (and) PEG-800 (and) Aminopropyl Triethoxysilane.

# ECOPOL TECH



COSMETIC  
POLYMERS

## ECOPOLDERM

**Chemistry:** Low molecular weight diurethane and derived from IPDI.

**APP:** Hydrophobic film-forming emollient, plasticizer and conditioning agent for hair care and skin care with high pH and thermal stability.

**INCI:** Dioctyldodecyl IPDI

# ECOPOL TECH



COSMETIC  
POLYMERS

## ECOSUN

**Chemistry:** Polyurethane-polyurea ethanol solution.

**APP:** Ethanol-based film-forming polymer for sunscreen applications. Great performance as SPF booster providing high water resistance in wet skin application. Also useful for hair styling sprays and aerosol sprays to provide high flexibility, frizz protection and light weight hold.

**INCI:** Polyurethane-64.

# ECOPOL TECH



COSMETIC  
POLYMERS

## ELYSAN

**Chemistry:** Anionic aqueous dispersion of aliphatic polyester-polyurethane.

**APP:** Designed to be included in face masks, sunscreens, conditioners, hair masks and hair-sprays to provide SPF-boosting, light weight film-formation and high elasticity. Specially recommended for damaged, rebel and curled hair.

**INCI:** Polyurethane-34

# ECOPOL TECH



COSMETIC  
POLYMERS

## ELYSAN PLUS

**Chemistry:** Anionic aqueous dispersion of aliphatic polyester-polyurethane.

**APP:** Designed to be included in face masks, sunscreens, conditioners, hair masks and hair-sprays to provide SPF-boosting, light weight film-formation and high elasticity. Specially developed to ensure a higher wash resistance and binding.

**INCI:** Polyurethane-35

# ECOPOL TECH



COSMETIC  
POLYMERS

## ECOREPAIR

**Chemistry:** Aqueous dispersion of polyurethane-polyurea-siloxane with free thiol groups

**APP:** Hair repairing agent, which creates a hydrophobic film around damaged hair through specific interaction with keratin proteins through disulphide bonding and hydrophobia.

It provides the following properties:

- Hair protection
- Anti-moisture effect
- Anti-dirtiness effect
- Anti-static action

**INCI Adopted:** Aqua and Dimethicone/Mercaptopropyl Methicone Copolymer (and) PEG-100/IPDI

# ECOPOL TECH



COSMETIC  
POLYMERS

## **ECOCAPI**

**Chemistry:** Aqueous-based cationic polyacrylamide.

**APP:** High affinity as hair-fixing, film-former and hair-binding agent in conditioners, shampoos and masks. Also useful in shaving gels and balms to add lubricity and slip.

**INCI:** Polyquaternium 5.



## **ECO-INTER-F2/F3**

**Chemistry:** Poly alphaolefin-co-maleic anhydride (C12, C14) polymeric additive served in oil solvent.

**APP:** Reactive prepolymer intermediate. Useful to conjugate amino-reactive molecules via polyamide bonds. It allows the development of polymer conjugates with tunable hydrophobicity, bioactivity, ionicity, among others.

**ID:** Poly alphaolefin-co-maleic anhydride (C12, C14)

contact

follow 

